IN THE CLAIMS:

Please amend claims 1, 7 and 8 as follows:

1. (Currently amended) A method of converting digital data, the method comprising:

binding input digital data into unit blocks, each unit block comprising a plurality of bytes;

modulation-coding each of the plurality of bytes of the unit blocks according to a code conversion table; and

adding at least one merging bit ~~to~~ followed by each modulation-coded unit block.

2. (Previously presented) The method of claim 1, wherein each unit block comprises three to seven bytes.

3. (Previously presented) The method of claim 1, wherein three merging bits are added.

4. (Previously presented) The method of claim 1, wherein each of the plurality of bytes is modulation-coded into a code word of a fifteen bits according to an 8/15 conversion table.

5. (Previously presented) The method of claim 1, wherein adding the at least one merging bit comprises comparing a running digital sum (RDS) of a present unit block to an RDS of a previous unit block such that the RDS is minimized without violating a run length limited (RLL) restraint.

6. (Previously presented) The method of claim 5, further comprising primarily outputting the at least one merging bit followed by the modulation-coded present unit block while simultaneously updating the running digital sum (RDS) up to the present unit block to prepare for addition of at least one merging bit to a next unit block.

7. (Currently amended) A method of digital data conversion, comprising:

performing ~~8/15~~ modulation-coding of an input data block of m bytes and simultaneously producing a running digital sum (RDS) of the input data block;

evaluating the RDS of the input data block and an RDS of a previous input data block to select at least one merging bit; and

outputting the selected at least one merging bit, followed by the modulation-coded input data block, and updating the RDS for selecting at least one merging bit for a next input data block.

8. (Currently amended) A method of recording and reproducing digital data, the method comprising:

binding input digital data into unit blocks, each unit block comprising a plurality of bytes;

modulation-coding each of the unit blocks;

adding at least one merging bit ~~to~~ followed by each modulation-coded unit block;

recording byte-unit information indicating the number of bytes comprising each unit block together with modulation-coded data to which the at least one merging bit was added; and

decoding each unit block using the corresponding recorded byte-unit information.

9. (Previously presented) The method of claim 8, wherein each of the unit blocks comprises three to seven bytes.

10. (Previously presented) The method of claim 8, wherein the at least one merging bit is added such that a running digital sum (RDS) value is minimized without violating a run length limited (RLL) restraint.

11. (Previously presented) A method of converting digital data, the method comprising:

binding input digital data into unit blocks, each unit block comprising a plurality of bytes;

modulation-coding each of the plurality of bytes of the unit blocks according to a code conversion table;

comparing a running digital sum (RDS) of a present unit block to an RDS of a previous unit block to allocate at least one merging bit for the present modulation-coded unit block such that the RDS is minimized without violating a run length limited (RLL) restraint; and

primarily outputting the at least one merging bit followed by the modulation-coded present unit block while simultaneously updating the RDS up to the present unit block to prepare for allocation of at least one merging bit for a next unit block.

12. (Previously presented) The method of claim 11, wherein each unit block comprises three to seven bytes.

13. (Previously presented) The method of claim 11, wherein three merging bits are allocated for each modulation-coded unit block.

14. (Previously presented) The method of claim 11, wherein each of the plurality of bytes is modulation-coded into a code word of a fifteen bits according to an 8/15 conversion table.

15. (Previously presented) The method of claim 7, wherein m is three to seven bytes.

16. (Previously presented) The method of claim 7, wherein three merging bits are selected.

17. (Previously presented) The method of claim 8, wherein three merging bits are added to each modulation-coded unit block.

18. (Previously presented) The method of claim 8, wherein each of the unit blocks is modulation-coded into a code word of a fifteen bits according to an 8/15 conversion table.

19. (Previously presented) The method of claim 10, wherein adding the at least one merging bit comprises comparing a running digital sum (RDS) of a present unit block to an RDS of a previous unit block.

20. (Previously presented) The method of claim 19, further comprising primarily outputting the at least one merging bit followed by the modulation-coded present unit block while simultaneously updating the running digital sum (RDS) up to the present unit block to prepare for addition of at least one merging bit to a next unit block.